

# **Stormwater Pollution Prevention Plan Alaskan Copper Facility Seattle, Washington**

May 5, 2010

(See Section 1.0 for record of revisions to this SWPPP)

Prepared for

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*Original Copy*

**STORMWATER POLLUTION PREVENTION PLAN CERTIFICATION  
ALASKAN COPPER WORKS  
SEATTLE, WASHINGTON**

I certify, under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name of Facility Representative\*\* \_\_\_\_\_

Signature \_\_\_\_\_ Date \_\_\_\_\_

\*\* In the case of a corporation, partnership, or sole proprietorship, the plan shall be signed by either a principal executive officer of at least the level of vice president of a corporation, a general partner of a partnership, or the proprietor of a sole proprietorship. Alternatively, the plan may be signed by a duly authorized representative of that person, if general condition G.17 of the Industrial Stormwater General Permit is followed.

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A	Worksheets 1 through 4
B	Property Site Map

## 1.0 INTRODUCTION

This document presents a stormwater pollution prevention plan (SWPPP) for the Alaskan Copper Works facility (the “facility”), located at 3200 6<sup>th</sup> Avenue South in Seattle, Washington. This SWPPP has been prepared in accordance with the requirements of Permit #SO3-000139D, issued to Alaskan Copper Works, under the State of Washington’s Industrial Stormwater General Permit (Permit), issued on August 21, 2002, last modified on January 14, 2005, and reissued on October 15, 2008. The Permit is listed as expired as of April 30, 2009, but all facilities that were covered when it expired are still covered under the Permit, and are required to comply with all Permit conditions, including monitoring and reporting.

The purpose of this SWPPP, as defined in the Permit, is to provide a “documented plan to implement measures to identify, prevent, and control the contamination of point source discharges of stormwater.”

This SWPPP is divided into the following three main sections:

- **Facility Assessment:** Presents a general facility description, site map, inventory of industrial activities, and inventory of materials
- **Best Management Practices:** Describes best management practices (BMPs) in use or planned for use at the facility
- **Stormwater Monitoring Plan:** Presents a plan for conducting quarterly and annual stormwater monitoring at the facility.

This document will be updated as needed to reflect changes to the facility’s stormwater management program, including changes in BMPs and the addition of new industrial activities or potential pollutant sources. A new cover page showing the revision date will be attached to each updated SWPPP. A copy of this SWPPP will be maintained at the facility’s administrative office. A list of the major revisions to the previous version of the SWPPP is presented below.

Date	Revision
November 2005	Add ROMIC Environmental Technologies, Inc. as Alaskan Copper Works authorized agent
November 2007	Add Clean Harbors Environmental Services, Inc. as Alaskan Copper Works authorized agent
May 2009	Update SWPPP; add Clean Harbors Environmental Services Personnel to SWPPP
July 2009	Additional SWPPP updates and modifications

## **2.0 FACILITY ASSESSMENT**

In accordance with the Permit, the facility assessment includes “a description of the facility, a detailed site map, an inventory of facility activities and equipment that contribute to or have the potential to contribute pollutants to stormwater, and an inventory of materials that contribute to or have the potential to contribute pollutants to stormwater.”

### **2.1 FACILITY DESCRIPTION**

Alaskan Copper Works is a dimensional steel and stainless steel pipe fabrication facility. The facility covers approximately 21.7 acres and consists of approximately 75 percent buildings and paved areas. The layout of the facility, including major buildings (628, 2958, 3200, 3317, and 3405), the facility’s stormwater sampling location, and the drainage direction from the facility, is presented in Attachment B. Only stormwater from the area between buildings 3317 and 3405 (including portions of the roofs of buildings 3317 and 3405) drains to the storm drain system. Stormwater from the remainder (majority) of the facility area drains to a combined sanitary sewer system.

According to the Permit, facilities with a standard industrial classification (SIC) category of 34xx for fabricated metal products (Alaskan Copper Works has an SIC code of 3443, fabricated plate work – boiler shops) conduct operations and activities that are considered industrial activities requiring a stormwater permit. Industrial activities currently performed at this facility include:

Steel pipe forming, bending, and cutting	Cutting operations
Pipe welding and grinding	Plasma table operations
Outdoor storage and transfer of materials	Vehicle maintenance
Vehicle fueling	

Some of these activities are limited to inside buildings and some are not conducted within the southern stormwater drainage area. Additional details of these activities and potential stormwater pollutants associated with these activities are provided in Worksheet #1 in Attachment A.

#### **2.1.1 POTENTIAL SOURCES OF STORMWATER POLLUTION**

The following items that result from facility operations, or that are stored at the facility, are potential sources of stormwater pollution at the facility (although the use of some of these materials is limited to areas outside of the southern stormwater drainage area):

Cutting fluid	Cooling fluid
Lubrication grease	Raw or final metal products
Air emissions from processing	Facility building material leaching
Drummed solids from the cyclone	

Additional details of these potential pollutants and how they could potentially become entrained in stormwater are provided in Worksheet #2 in Attachment A. There have been no known or recorded significant spills or leaks of toxic or hazardous pollutants at the facility that migrated off-property within the last five years. Minor spills may have occurred inside and outside of the facility structures, but were contained and promptly cleaned up.

## **2.2 STORMWATER DRAINAGE**

It was previously determined through examination of City of Seattle storm drain maps and discussions with City representatives that the only stormwater discharge location from the facility is located at the southern portion of the facility between buildings 3317 and 3405, as shown on the figure in Attachment B. Drainage from other portions of the site (the majority of the facility area) drain into the combined sanitary sewer system, and therefore drainage from those other areas is not discharged offsite to surface water. Stormwater exiting the southern portion of the facility to the storm drain is believed to move south and eventually westward into the Duwamish River. The designated stormwater sampling location discharge point and stormwater flow from the facility at this location are shown on the Property Site Map in Attachment B.



### 3.0 BEST MANAGEMENT PRACTICES

The following section provides a general description of the BMPs that are applicable to the industrial operations at the facility, as defined in Section S9 of the Permit. General descriptions of these BMPs from Volume IV of the 2005 *Stormwater Management Manual for Western Washington* (SMMWW) (available online at <http://www.ecy.wa.gov/pubs/0510032.pdf>) are provided below in italicized font. The specific application of these BMPs to the facility is provided immediately below the general description and follows a hyphen symbol. Applicable operational and source control BMPs for a range of industrial activities, along with each BMP's potential applicability to the facility, are summarized in Table 1. The selection of these BMPs for the facility is based on the presumptive approach, as defined in Special Condition S9 of the Permit; therefore, performance claims for these BMPs are not provided.

#### 3.1 OPERATIONAL SOURCE CONTROL BMPs

This section describes general operational source control BMPs that are applicable to all industrial activities and operations for facilities covered under the Permit, as defined in Section S9 of the Permit. Other BMPs that are included in Volume IV of the SMMWW as recommended (but optional) BMPs are also listed in this section. Operational BMPs for specific industrial activities and operations are listed in Section 3.2.

##### 3.1.1 POLLUTION PREVENTION TEAM

The following pollution prevention team BMPs are applicable to the facility, as defined in Section S9 of the Permit, unless noted otherwise.

- *Assign one or more individuals to be responsible for stormwater pollution control. Hold regular meetings to review the overall operation of the BMPs. Establish responsibilities for inspections, operation and maintenance, and availability for emergency situations. Train all team members in the operation, maintenance and inspections of BMPs, and reporting procedures.*
- **Pollution Prevention Team:** The team leader is designated as the SWPPP Coordinator at the facility and will have overall responsibility for developing, implementing, maintaining, and revising this SWPPP. The team leader will be assisted by other facility employees, as necessary. Contact information for the SWPPP Coordinator and the facility Responsible Official is provided below.

PP Team Role	Name	Office Phone / Cell Phone
Responsible Official	Jim Brown	(206) 623-5800 / (b) (6)
SWPPP Coordinator	Jerry Thompson	(206) 623-5800 / NA

### 3.1.2 GOOD HOUSEKEEPING

The following good housekeeping BMPs are applicable to the facility, as defined in Section S9 of the Permit, unless noted otherwise.

- *Promptly contain and clean up solid and liquid pollutant leaks and spills including oils, solvents, fuels, and dust from manufacturing operations on any exposed soil, vegetation, or paved area.*
  - **Spills:** See Spill Prevention and Cleanup in Section 3.1.4.
- *Sweep paved material handling and storage areas regularly, as needed, for the collection and disposal of dust and debris that could contaminate stormwater. Do not hose down pollutants from any area to the ground, storm drain, conveyance ditch, or receiving water unless necessary for dust control purposes to meet air quality regulations and unless the pollutants are conveyed to a treatment system approved by the local jurisdiction.*
  - **Sweeping:** Sweeping of the paved areas of the facility is to be conducted at least annually, per City of Seattle standards. Additional sweeping is performed if needed, based on facility conditions. Sweeping the dirt and associated pollutants from paved areas of the facility can be one of the most effective stormwater pollutant source control measures, so increasing the frequency of sweeping will be considered any time that stormwater benchmarks are found to have been exceeded. To the extent practical, the facility will employ sweepers with vacuum filter equipment to minimize dust generation.
- *Clean oil, debris, sludge, etc., from all BMP systems regularly, including catch basins, settling/detention basins, oil/water separators, boomed areas, and conveyance systems, to prevent the contamination of stormwater. Refer to the Washington State Department of Ecology's (Ecology) regional offices to assist in determining if a waste must be handled as hazardous waste.*
  - **Catch Basins:** See applicable catch basin maintenance BMPs in Section 3.2.4. *By inspector as a computer PM each week by Terry*
- *Promptly repair or replace substantially cracked or otherwise damaged paved secondary containment, high-intensity parking and any other drainage areas, which are subjected to pollutant material leaks or spills.*
- *Promptly repair or replace all leaking connections, pipes, hoses, valves, etc., that can contaminate stormwater.* *Repair WO # 48858*

The following Good Housekeeping BMP is not required but recommended:

- *Recycle materials, such as oils, solvents, and wood waste, to the maximum extent possible.*
  - **Recycling:** Oil is recycled at the facility. Waste oil for recycling is stored in an approximately 500-gallon drum on the northern side of Building 628, which is outside of the stormwater drainage area.

### 3.1.3 PREVENTIVE MAINTENANCE

The following Preventive Maintenance BMPs are applicable to the facility, as defined in Section S9 of the Permit, unless noted otherwise.

- *Prevent the discharge of unpermitted liquid or solid wastes, process wastewater, and sewage to ground or surface water, or to storm drains which discharge to surface water, or to the ground.*
- *Do not connect floor drains in potential pollutant source areas to storm drains, surface water, or to the ground.*
- *Conduct all oily parts cleaning, steam cleaning, or pressure washing of equipment or containers inside a building, or on an impervious contained area, such as a concrete pad. Direct rinse water and contaminated stormwater from such an area to a sanitary sewer where allowed by the local sewer authority, or to other approved treatment.*
  - **Washing:** Parts cleaning (if needed) is conducted indoors. However, if facility personnel wash vehicles or equipment outdoors in an area that discharges to the stormwater system, they should ensure that washing is conducted only where the water will be contained within a catch basin with its outlet drain plugged, and where the washwater will be pumped out to the sanitary sewer system or hauled offsite for appropriate treatment. Allowing offsite drainage of wash-water or rinse-water to surface water is not allowed.
- *Do not pave over contaminated soil unless it has been determined that groundwater has not been and will not be contaminated by the soil. Call Ecology for assistance.*
- *Construct impervious areas that are compatible with the materials handled. Portland cement concrete, asphalt, or equivalent material may be considered.*
- *Use drip pans to collect leaks and spills from industrial/commercial equipment such as airplanes, trucks, and other vehicles, which are stored outside.*
- *At industrial and commercial facilities, drain oil and fuel filters before disposal. Discard empty oil and fuel filters, oily rags and other oily solid waste into appropriately closed and properly labeled containers, and in compliance with the Uniform Fire Code.*
- *For the storage of liquids use containers, such as steel and plastic drums, that are rigid and durable, corrosion-resistant to the weather and fluid content, non-absorbent, watertight, rodent-proof, and equipped with a close fitting cover.*
- *For the temporary storage of solid wastes contaminated with liquids or other potential pollutant materials use dumpsters, garbage cans, drums, and comparable containers, which are durable, corrosion-resistant, non-absorbent, non-leaking, and equipped with either a solid cover or screen cover to prevent littering. If covered with a screen, the container must be stored under a lean-to or equivalent structure.*
- *Where exposed to stormwater, use containers, piping, tubing, pumps, fittings, and valves that are appropriate for their intended use and for the contained liquid.*

The following Preventive Maintenance BMP is not required but recommended:

- *Where feasible, store potential stormwater pollutant materials inside a building or under a cover and/or containment.*

### 3.1.4 SPILL PREVENTION AND CLEANUP

The following Spill Prevention and Cleanup BMPs are applicable to the facility, as defined in Section S9 of the Permit.

- *Immediately upon discovery, stop, contain, and clean up all spills.*
- *If pollutant materials are stored onsite, have spill containment and cleanup kits readily accessible.*
  - **Spill Containment.** The 300-gallon diesel tank located between Buildings 3405 and 3317 is a double-walled steel tank to provide secondary containment. A short concrete block wall surrounds the tank to provide physical protection from forklift or other impacts.
  - **Spill Kits.** Oil absorptive materials and spill response equipment are located near the 300-gallon diesel storage tank.
- *If the spill has reached or may reach a sanitary or a storm sewer, ground water, or surface water notify Ecology and the local sewer authority immediately. Notification must comply with federal spill reporting requirements. (See also record keeping in Section 3.1.6.)*
  - **To Report a Spill.** To report a spill or to determine if a spill is a substance of a Reportable Quantity, call the Ecology regional office and ask for an oil spill operations or hazardous waste specialist (Northwest Regional Office: 425-649-7000). Ecology requires that oil spills be reported to the National Response Center (800-424-8802) and to Washington State (800-258-5990 or 800-OILS-911). Report all non-oil spills to Ecology 425-649-7000. If the spill has reached or may reach a sanitary or storm sewer, notify Ecology and the City of Seattle Public Utilities (206-684-3000) immediately. Worksheet #3 in Attachment A provides a form on which to record spills.
- *Do not flush absorbent materials or other spill cleanup materials to a storm drain. Collect the contaminated absorbent material as a solid and place in appropriate disposal containers.*

The following Spill Prevention and Cleanup BMP is not required but recommended:

- *Place and maintain emergency spill containment and cleanup kit(s) at outside areas where there is a potential for fluid spills. These kits should be appropriate for the materials being handled and the size of the potential spill.*

### 3.1.5 EMPLOYEE TRAINING

The following employee training BMP is applicable to the facility, as defined in Section S9 of the Permit, unless noted otherwise.

- *Train all employees that work in pollutant source areas in identifying pollutant sources and in understanding pollutant control measures, spill response procedures, and environmentally acceptable material handling practices - particularly those related to vehicle/equipment liquids such as fuels, and vehicle/equipment cleaning. Use Ecology's "Guidance Manual for Preparing/Updating a Stormwater Pollution Prevention Plan for Industrial Facilities" (Publication Number 04-10-030) as a training reference.*
  - **Employee Training:** Alaskan Copper Works provides in-house training at least once per year to personnel handling stormwater issues. The training covers the contents of this SWPPP and how employees make a difference in pollution prevention. A log will be maintained documenting the dates of this training and the attendees. The training log will be maintained and updated in Worksheet #4 (Attachment A).

### 3.1.6 INSPECTIONS AND RECORDKEEPING

The following inspection BMPs (including quarterly visual inspections during storm events) and recordkeeping BMPs are applicable to the facility, as defined in Section S9 of the Permit, unless noted otherwise.

- *Verify that the descriptions of the pollutant sources identified in the stormwater pollution control program are accurate.*
  - **Pollutant Source Descriptions:** As an active facility, near-daily observations will be made by the pollution prevention team as to the status of potential pollutant sources at the facility. This SWPPP will be updated if new potential sources are identified and if existing potential sources are eliminated.
- *Verify that the stormwater pollutant controls (BMPs) being implemented are adequate.*
  - **BMP Adequacy:** This verification will be made on the Quarterly (and Annual) Stormwater Monitoring form in Section 4. In addition, this verification will also be made through comparison of stormwater monitoring results to benchmark and action levels (see Section 4.10) and through near-daily observations of facility BMPs by the pollution prevention team and other facility personnel.
- *Update the site map to reflect current conditions.*
  - The site map will be updated as appropriate to show changes to the Alaskan Copper Works facility that may impact stormwater discharges. Alaskan Copper Works intends to update the site map in Attachment B to better reflect industrial activities and material storage at the facility.
- *Include observations of the presence of floating materials, suspended solids, oil and grease, discoloration, turbidity, and odor in the stormwater discharges; in outside vehicle maintenance/repair areas; and liquid handling and storage areas. In areas where acid or*

*alkaline materials are handled or stored, use a simple litmus or pH paper to identify those types of stormwater contaminants where needed.*

- **Stormwater Observations:** These observations will be made on the Quarterly (and Annual) Stormwater Monitoring form provided in Section 4.
- *Conduct at least one dry season inspection each year to determine whether there is/are unpermitted non-stormwater discharges to storm drains or receiving waters, such as process wastewater and vehicle/equipment washwater, and either eliminate or obtain a permit for such a discharge.*
- **Unpermitted Non-Stormwater Discharges:** This determination will be made as part of annual dry season monitoring, as described in Section 4.7.1. If Alaskan Copper Works identifies an unpermitted discharge, it will eliminate or obtain a permit for the discharge.

Recordkeeping BMPs require that the following reports be retained for 5 years:

- *Visual inspection reports, which should include: scope of the inspection, the personnel conducting the inspection, the date(s) of the inspection, major observations relating to the implementation of the SWPPP (performance of the BMPs, etc.) and actions taken to correct BMP inadequacies.*
- **Visual Inspections:** Visual inspections are described in Section 4.7.1.
- *Reports on spills of oil or hazardous substances in greater than Reportable Quantities (Code of Federal Regulations Title 40 Parts 302.4 and 117), including the following: oil, gasoline, or diesel fuel, that causes a violation of the State of Washington's Water Quality Standards, or, that causes a film or sheen upon or discoloration of the waters of the State or adjoining shorelines or causes a sludge or emulsion to be deposited beneath the surface of the water or upon adjoining shorelines.*
- **Reports on Spills:** Any spill reports that are generated will be maintained within Alaskan Copper Works files at the facility.
- *To report a spill or to determine if a spill is a substance of a Reportable Quantity, call the Ecology regional office and ask for an oil spill operations or a hazardous waste specialist: (Northwest Region (425) 649-7000). Also refer to Emergency Spill Response in Washington State, Publication # 97-1165-CP.*
- **To Report a Spill:** See Spill Prevention and Cleanup in Section 3.1.4.

### **3.2 STRUCTURAL SOURCE CONTROL AND OPERATIONAL BMPs BY OPERATING AREAS**

This section describes Structural Source Control BMPs and Operational BMPs based on the specific operating areas of the Alaskan Copper Works facility.

### 3.2.1 BMPs for Fueling at Dedicated Stations

This section describes the applicable BMPs for fueling at dedicated stations.

\* **General Description of Potential Pollutant Sources:** *A fueling station is a facility dedicated to the transfer of fuels from a stationary pumping station to mobile vehicles or equipment. It includes above or under-ground fuel storage facilities. In addition to general service gas stations, fueling may also occur at 24-hour convenience stores, construction sites, warehouses, car washes, manufacturing establishments, port facilities, and businesses with fleet vehicles. Typically, stormwater contamination at fueling stations is caused by leaks/spills of fuels, lube oils, radiator coolants, and vehicle washwater.*

- **Applicability at facility:** Alaskan Copper Works maintains a 300-gallon diesel tank between Buildings 3405 and 3317.

#### 3.2.1.1 Operational BMPs for Fueling at Dedicated Stations

The following BMPs are applicable to the facility, as defined in Section S9 of the Permit, unless noted otherwise:

- *Prepare an emergency spill response and cleanup plan (per BMPs for Spills of Oil and Hazardous Substances) and have designated trained person(s) available either on site or on call at all times to promptly and properly implement that plan and immediately cleanup all spills. Keep suitable cleanup materials, such as dry adsorbent materials, on site to allow prompt cleanup of a spill.*
- **Spill Prevention and Cleanup:** See Section 3.1.4 for spill prevention and cleanup BMPs as part of the good housekeeping BMPs.
- *Train employees on the proper use of fuel dispensers. Post signs in accordance with the Uniform Fire Code (UFC). Post "No Topping Off" signs (topping off gas tanks causes spillage and vents gas fumes to the air). Make sure that the automatic shutoff on the fuel nozzle is functioning properly.*
- *The person conducting the fuel transfer must be present at the fueling pump during fuel transfer, particularly at unattended or self-serve stations.*
- *Keep drained oil filters in a suitable container or drum.*

#### 3.2.1.2 Structural BMPs for Fueling at Dedicated Stations

The following BMPs are applicable to the facility, as defined in Section S9 of the Permit, unless noted otherwise:

- *Design the fueling island to control spills (dead-end sump or spill control separator in compliance with the UFC), and to treat collected stormwater and/or wastewater to required levels. Slope the concrete containment pad around the fueling island toward drains; either trench drains, catch basins and/or a dead-end sump. The slope of the drains shall not be less*

than 1 percent (Section 7901.8 of the UFC). Drains to treatment shall have a shutoff valve, which must be closed in the event of a spill. The spill control sump must be sized in compliance with Section 7901.8 of the UFC; or

- *Design the fueling island as a spill containment pad with a sill or berm raised to a minimum of four inches (Section 7901.8 of the UFC) to prevent the runoff of spilled liquids and to prevent run-on of stormwater from the surrounding area. Raised sills are not required at the open-grate trenches that connect to an approved drainage-control system.*
  - **Secondary containment:** See Section 3.1.4.
- *The fueling pad must be paved with Portland cement concrete, or equivalent. Asphalt is not considered an equivalent material.*
- *The fueling island must have a roof or canopy to prevent the direct entry of precipitation onto the spill containment pad. The roof or canopy should, at a minimum, cover the spill containment pad (within the grade break or fuel dispensing area) and preferably extend several additional feet to reduce the introduction of windblown rain. Convey all roof drains to storm drains outside of the fueling containment area.*
  - **Covering of fueling pad:** The small 300-gallon diesel tank is used infrequently and is not provided with a roof or canopy. However, stormwater sampling results from this area have shown general attainment of the oil & grease benchmark value. A future upgrade or relocation of the diesel tank to an area under cover may be considered if future problems are found with oil & grease concentrations in stormwater above the benchmark or if there are observations of oil sheen on stormwater.
- *Stormwater collected on the fuel island containment pad must be conveyed to a sanitary sewer system, if approved by the sanitary authority; or to an approved treatment system such as an oil/water separator and a basic treatment BMP (Basic treatment BMPs are listed in Volume V and include media filters and biofilters). Discharges from treatment systems to storm drains or surface water or to the ground must not display ongoing or recurring visible sheen and must not contain greater than a significant amount of oil and grease.*
- *Alternatively, stormwater collected on the fuel island containment pad may be collected and held for proper off site disposal.*
- *Conveyance of any fuel-contaminated stormwater to a sanitary sewer must be approved by the local sewer authority and must comply with pretreatment regulations (WAC 173-216-060). These regulations prohibit discharges that could "cause fire or explosion." An explosive or flammable mixture is defined under state and federal pretreatment regulations, based on a flash point determination of the mixture. If contaminated stormwater is determined not to be explosive, then it could be conveyed to a sanitary sewer system.*
- *Transfer the fuel from the delivery tank trucks to the fuel storage tank in impervious contained areas and ensure that appropriate overflow protection is used. Alternatively, cover nearby storm drains during the filling process and use drip pans under all hose connections.*
- *If a roof or canopy is impractical the concrete fueling pad must be equipped with emergency spill control, which includes a shutoff valve for the drainage from the fueling area. The valve*



*must be closed in the event of a spill. An electronically actuated valve is preferred to minimize the time lapse between spill and containment. Spills must be cleaned up and disposed off-site in accordance with BMPs for Spills of Oil and Hazardous Substances.*

- *The valve may be opened to convey contaminated stormwater to a sanitary sewer, if approved by the sewer authority, or to oil removal treatment such as an API or CP oil/water separator, catchbasin insert, or equivalent treatment, and then to a basic treatment BMP. Discharges from treatment systems to storm drains or surface water or to the ground must not display ongoing or recurring visible sheen and must not contain greater than a significant amount of oil and grease.*

### **3.2.2 BMPs for Loading and Unloading Areas for Liquid or Solid Material**

This section describes the applicable BMPs for loading and unloading areas for liquid or solid material.

**General Description of Potential Pollutant Sources:** *Loading/unloading of liquid and solid materials at industrial and commercial facilities is typically conducted at shipping and receiving, outside storage, fueling areas, etc. Transferred materials can include products, raw materials, intermediate products, waste materials, fuels, scrap metals, etc. Leaks and spills of fuels, oils, powders, organics, heavy metals, salts, acids, alkalis, etc. during transfer are potential causes of stormwater contamination. Spills from hydraulic line breaks are a common problem at loading docks.*

- **Applicability at facility:** The Alaskan Copper Works facility loads and unloads liquid and solid materials. A 300-gallon diesel above ground storage tank is located within the stormwater drainage area. A drum of solids is located within the stormwater drainage area beneath the cyclone near the southwest side of building 3317.

#### **3.2.2.1 Operational BMPs for Loading and Unloading Areas for Liquid or Solid Material**

The following BMPs are applicable to the facility, as defined in Section S9 of the Permit, unless noted otherwise:

- *A significant amount of debris can accumulate at outside, uncovered loading/unloading areas. Sweep these surfaces frequently to remove material that could otherwise be washed away by stormwater. Sweep outside areas that are covered for a period of time by containers, logs, or other material after the areas are cleared.*
- **Sweeping:** See Section 3.1.2.
- *Place drip pans, or other appropriate temporary containment device, at locations where leaks or spills may occur such as hose connections, hose reels, and filler nozzles. Drip pans shall always be used when making and breaking connections. Check loading/unloading equipment such as valves, pumps, flanges, and connections regularly for leaks and repair as needed.*

- *To minimize the risk of accidental spillage, prepare an Operations Plan that describes procedures for loading/unloading. Train the employees, especially forklift operators, in its execution and post it or otherwise have it readily available to employees.*
- *Report spills of reportable quantities to Ecology.*
- *Prepare and implement an Emergency Spill Cleanup Plan for the facility (BMP Spills of Oil and Hazardous Substances).*

### **3.2.2.2 Structural BMPs for Loading and Unloading Areas for Liquid or Solid Material**

The following BMPs are applicable to the facility, as defined in Section S9 of the Permit, unless noted otherwise:

- *At all loading/unloading areas: Consistent with Uniform Fire Code requirements (Appendix IV-D R.2) and to the extent practicable, conduct unloading or loading of solids and liquids in a manufacturing building, under a roof, or lean-to, or other appropriate cover.*
- *Berm, dike, and/or slope the loading/unloading area to prevent run-on of stormwater and to prevent the runoff or loss of any spilled material from the area.*
- *Large loading areas frequently are not curbed along the shoreline. As a result, stormwater passes directly off the paved surface into surface water. Place curbs along the edge or slope the edge such that the stormwater can flow to an internal storm drain system that leads to an approved treatment BMP.*
- *Pave and slope loading/unloading areas to prevent the pooling of water. The use of catch basins and drain lines within the interior of the paved area must be minimized as they will frequently be covered by material, or they should be placed in designated "alleyways" that are not covered by material, containers, or equipment.*

### **3.2.3 BMPs FOR MAINTENANCE OF STORMWATER DRAINAGE AND TREATMENT SYSTEMS**

This section describes applicable operational BMPs for maintenance of stormwater drainage and treatment systems.

**General Description of Pollutant Sources:** *Facilities include roadside catch basins on arterials and within residential areas, conveyance systems, detention facilities such as ponds and vaults, oil and water separators, biofilters, settling basins, infiltration systems, and all other types of stormwater treatment systems presented in Volume V. Roadside catch basins can remove from 5 to 15 percent of the pollutants present in stormwater. When catch basins are about 60 percent full of sediment, they cease removing sediments. Oil and grease, hydrocarbons, debris, heavy metals, sediments and contaminated water are found in catch basins, oil and water separators, settling basins, etc.*

- **Applicability at the facility:** Alaskan Copper Works maintains catch basins at the facility.

### 3.2.3.1 Operational BMPs for Maintenance of Stormwater Drainage and Treatment Systems

The following BMPs are applicable to the facility, as defined in Section S9 of the Permit, unless noted otherwise:

- *Inspect and clean treatment BMPs, conveyance systems, and catch basins as needed, and determine whether improvements in operations and maintenance (O & M) are needed.*
  - **Catch Basins:** Catch basins will be cleaned as needed to preserve solids settling capacity and to ensure no overflow of accumulated solids out of the catch basin. *Each 1/4*
- *Promptly repair any deterioration threatening the structural integrity of the facilities. These include replacement of cleanout gates, catch basin lids, and rock in emergency spillways.*
- *Ensure that storm sewer capacities are not exceeded and that heavy sediment discharges to the sewer system are prevented.*
- *Regularly remove debris and sludge from structural BMPs used for peak-rate control, treatment, etc., and discharge to a sanitary sewer, if approved by the sewer authority, or truck to a local or state government-approved disposal site.*
- *Clean catch basins when the depth of deposits reaches 60 percent of the sump depth as measured from the bottom of the basin to the invert of the lowest pipe into or out of the basin. However, in no case should there be less than six inches clearance from the debris surface to the invert of the lowest pipe. Some catch basins (for example, Washington State Department of Transportation Type 1L basins) may have as little as 12 inches sediment storage below the invert. These catch basins will need more frequent inspection and cleaning to prevent scouring. Where these catch basins are part of a stormwater collection and treatment system, the system owner/operator may choose to concentrate maintenance efforts on downstream control devices as part of a systems approach.*
  - **Catch Basin Cleaning:** Catch basins will be cleaned as needed. In addition, catch basin inserts will be placed in catch basins that collect large amounts of solids or debris to reduce contamination of stormwater. Catch basin inserts will be inspected regularly and replaced as needed. *Weekly*
- *Clean woody debris in a catch basin as frequently as needed to ensure proper operation of the catch basin.*
- \* • *Post warning signs; "Dump No Waste – Drains to Groundwater," "Streams," "Lakes," or emboss on or adjacent to all storm drain inlets where practical.*
- *Disposal of sediments and liquids from the catch basins must comply with "Recommendations for Management of Street Wastes" from Appendix IV-G of the Stormwater Management Manual for Western Washington, available online at: <http://www.ecy.wa.gov/pubs/9914.pdf>.*

### 3.2.4 BMPs FOR ROOF/BUILDING DRAINS AT MANUFACTURING AND COMMERCIAL BUILDINGS

\* This section describes the operational BMPs for roof/building drains at manufacturing and commercial buildings.

*General Description of Pollutant Sources:* Stormwater runoff from roofs and sides of manufacturing and commercial buildings can be sources of pollutants caused by leaching of roofing materials, building vents, and other air emission sources. Vapors and entrained liquid and solid droplets/particles have been identified as potential pollutants in roof/building runoff. Metals, solvents, acidic/alkaline pH, BOD, and organics, are some of the pollutant constituents identified.

- **Applicability at the facility:** Alaskan Copper Works maintains roof air outlets that employ a cyclone air pollution control device to remove pipe production dust and grit from the air exhaust.

#### 3.2.4.1 Operational BMPs for Roof/Building Drains at Manufacturing and Commercial Buildings

The following BMPs are applicable to the facility, as defined in Section S9 of the Permit, unless noted otherwise:

- *If leachate and/or emissions from buildings are suspected sources of stormwater pollutants, then sample and analyze the stormwater draining from the building. If a roof/building stormwater pollutant source is identified, implement appropriate source control measures such as air pollution control equipment, selection of materials, operational changes, material recycle, process changes, etc.*

### 3.2.5 BMPs FOR STORAGE OF LIQUIDS, FOOD WASTES, OR DANGEROUS WASTE CONTAINERS (OUTSIDE)

This section describes the BMPs required for Storage of Liquids, Food Wastes, or Dangerous Waste Containers (Outside).

**General Description of Potential Pollutant Sources.** Steel and plastic drums with volumetric capacities of 55 gallons or less are typically used at industrial facilities for container storage of liquids and powders. The BMPs specified below apply to container(s) located outside a building used for temporary storage of accumulated food wastes, vegetable or animal grease, used oil, liquid feedstock or cleaning chemical, or Dangerous Wastes (liquid or solid) unless the business is permitted by Ecology to store the wastes. Leaks and spills of pollutant materials during handling and storage are the primary sources of pollutants. Oil and grease, acid/alkali pH, BOD, COD are potential pollutant constituents.

- **Applicability at Alaskan Copper Works:** There is no storage of liquids, food waste, or dangerous waste containers in containers stored outdoors within the identified stormwater drainage area (with the exception of the 300-gallon diesel above ground storage tank discussed separately). The BMPs are provided in this section in the event that temporary storage of liquids or dangerous wastes may need to occur in the future.

### **3.2.5.1 Operational BMPs for Storage of Liquids, Food Wastes, or Dangerous Waste Containers (Outside)**

The following BMPs are applicable to the facility, as defined in Section S9 of the Permit, unless noted otherwise:

- \* • *Place tight-fitting lids on all containers.*
- *Place drip pans beneath all mounted container taps and at all potential drip and spill locations during filling and unloading of containers.*
- *Inspect container storage areas regularly for corrosion, structural failure, spills, leaks, overfills, and failure of piping systems. Check containers daily for leaks/spills. Replace containers, and replace and tighten bungs in drums as needed.*
- *Businesses accumulating Dangerous Wastes that do not contain free liquids need only to store these wastes in a sloped designated area with the containers elevated or otherwise protected from storm water run-on.*
- *Drums stored in an area where unauthorized persons may gain access must be secured in a manner that prevents accidental spillage, pilferage, or any unauthorized use.*
- *Storage of reactive, ignitable, or flammable liquids must comply with the Uniform Fire Code*
- \* • *Cover dumpsters, or keep them under cover such as a lean-to, to prevent the entry of stormwater. Replace or repair leaking garbage dumpsters.*
- \* • *Drain dumpsters and/or dumpster pads to sanitary sewer. Keep dumpster lids closed. Install waterproof liners.*

### **3.2.5.2 Structural BMPs for Storage of Liquids, Food Wastes, or Dangerous Waste Containers (Outside)**

The following BMPs are applicable to the facility as defined in Section S9 of the Permit, unless noted otherwise:

- *Keep containers with Dangerous Waste, food waste, or other potential pollutant liquids inside a building unless this is impracticable due to site constraints or Uniform Fire Code requirements.*
- *Store containers in a designated area, which is covered, bermed or diked, paved and impervious in order to contain leaks and spills. The secondary containment shall be sloped to drain into a dead-end sump for the collection of leaks and small spills.*
- \* • *For liquid wastes, surround the containers with a dike. The dike must be of sufficient height to provide a volume of either 10 percent of the total enclosed container volume or 110 percent of the volume contained in the largest container, whichever is greater, or, if a single container, 110 percent of the volume of that container.*

- *Where material is temporarily stored in drums, a containment system can be used.*
- *Place containers mounted for direct removal of a liquid chemical for use by employees inside a containment area as described above. Use a drip pan during liquid transfer.*
- *Include a tank overflow protection system to minimize the risk of spillage during loading.*

### 3.2.6 BMPs FOR STORAGE OF LIQUIDS IN PERMANENT ABOVEGROUND STORAGE TANKS

This section describes the operational, structural, and treatment BMPs for the storage of liquids in permanent aboveground storage tanks.

**General Description of Pollutant Sources:** *Above-ground tanks containing liquids (excluding uncontaminated water) may be equipped with a valved drain, vent, pump, and bottom hose connection. They may be heated with steam heat exchangers equipped with steam traps. Leaks and spills can occur at connections and during liquid transfer. Oil and grease, organics, acids, alkalis, and heavy metals in tank water and condensate drainage can also cause stormwater contamination at storage tanks.*

- **Applicability at the facility:** The 300-gallon diesel tank located between Buildings 3405 and 3317 is a double-walled steel tank to provide secondary containment. A short concrete block wall surrounds the tank to provide physical protection from forklift or other impacts.

#### 3.2.6.1 Operational BMPs for Storage of Liquids in Permanent Aboveground Storage Tanks

The following BMPs are applicable to the facility, as defined in Section S9 of the Permit, unless noted otherwise:

*log*

- *Inspect the tank containment areas regularly to identify problem components such as fittings, pipe connections, and valves, for leaks/spills, cracks, corrosion, etc.*
- *Place adequately sized drip pans beneath all mounted taps and drip/spill locations during filling/unloading of tanks. Valved drain tubing may be needed in mounted drip pans.*
- *Sweep and clean the tank storage area regularly, if paved.*
- *Replace or repair tanks that are leaking, corroded, or otherwise deteriorating.*
- *All installations shall comply with the Uniform Fire Code and the National Electric Code.*

#### 3.2.6.2 Structural BMPs for Storage of Liquids in Permanent Aboveground Storage Tanks

The following BMPs are applicable to the facility, as defined in Section S9 of the Permit, unless noted otherwise:

- *Locate permanent tanks in impervious (Portland cement concrete or equivalent) secondary containment areas surrounded by dikes or UL-approved double-walled tanks. The dike must be of sufficient height to provide a containment volume of either 10 percent of the total enclosed tank volume or 110 percent of the volume contained in the largest tank, whichever is greater, or, if a single tank, 110 percent of the volume of that tank.*
- **Secondary Containment:** The 300-gallon diesel tank is of double-wall steel construction to provide secondary containment. The concrete wall around this tank was installed for added physical protection.
- *Slope the secondary containment to drain to a dead-end sump (optional), or equivalent, for the collection of small spills.*
- *Include a tank overfill protection system to minimize the risk of spillage during loading.*

### 3.2.6.3 Treatment BMPs for Storage of Liquids in Permanent Aboveground Storage Tanks

The following BMPs are applicable to the facility, as defined in Section S9 of the Permit, unless noted otherwise:

- *If the tank containment area is uncovered, equip the outlet from the spill-containment sump with a shutoff valve, which is normally closed and may be opened, manually or automatically, only to convey contaminated stormwater to approved treatment or disposal, or to convey uncontaminated stormwater to a storm drain. Evidence of contamination can include the presence of visible sheen, color, or turbidity in the runoff, or existing or historical operational problems at the facility. Simple pH measurements with litmus or pH paper can be used for areas subject to acid or alkaline contamination.*
- *At petroleum tank farms, convey stormwater contaminated with floating oil or debris in the contained area through an API or CP-type oil/water separator, or other approved treatment prior to discharge to storm drain or surface water.*

### 3.2.7 BMPs FOR URBAN STREETS

This section describes the recommended BMPs for urban streets.

**General Description of Pollutant Sources:** *Streets can be the sources of vegetative debris, paper, fine dust, vehicle liquids, tire wear residues, heavy metals (lead and zinc), soil particles, ice control salts, domestic wastes, lawn chemicals, and vehicle combustion products. Street surface contaminants have been found to contain significant concentrations of particle sizes less than 250 microns.*

- **Applicability at the facility:** An urban street (6<sup>th</sup> Avenue South) runs north-south through the middle of the Alaskan Copper Works facility.

### 3.2.7.1 Recommended BMPs for Urban Streets

The following BMPs are recommended, but not required, and could potential help reduce turbidity, zinc, and other pollutants from entering the facility stormwater system.

- ANNUAL
- For maximum stormwater pollutant reductions on curbed streets and high volume parking lots use efficient vacuum sweepers (refer to Volume V, Ch. 12, for information about an emerging high-efficiency vacuum sweeper technology). Note: High-efficiency street sweepers utilize strong vacuums and the mechanical action of main and gutter brooms combined with an air filtration system that only returns clean air to the atmosphere (i.e., filters very fine particulates). They sweep dry and use no water since they do not emit any dust. It has been reported that high-efficiency vacuum sweepers have the capability of removing, from pavements under good condition, 80 percent or more of the accumulated street dirt particles whose diameters are less than 250 microns. This assumes pavements under good condition and reasonably expected accumulation conditions.
  - For moderate stormwater pollutant reductions on curbed streets use regenerative air sweepers or tandem sweeping operations. Note: A tandem sweeping operation involves a single pass of a mechanical sweeper followed immediately by a single pass of a vacuum sweeper or regenerative air sweeper. A regenerative air sweeper blows air down on the pavement to entrain particles and uses a return vacuum to transport the material to the hopper. These operations usually use water to control dust. This reduces their ability to pick up fine particulates. It has been reported that these types of sweepers have the capability of removing approximately 25 to 50 percent of the accumulated street dirt particles whose diameters are less than 250 microns. This assumes pavements under good conditions and typical accumulation conditions.
  - For minimal stormwater pollutant reductions on curbed streets use mechanical sweepers. Note: Mechanical sweepers are referred to as broom sweepers and use the mechanical action of main and gutter brooms to throw material on a conveyor belt that transports it to the hopper. These sweepers usually use water to control dust. This reduces their ability to pick up fine particulates. It has been reported that mechanical sweepers have the capability of removing only 10 to 20 percent of the accumulated street dirt particles whose diameters are less than 250 microns. This assumes pavements under good condition and the most favorable accumulation conditions.
  - Conduct sweeping at optimal frequencies. Optimal frequencies are those scheduled sweeping intervals that produce the most cost effective annual reduction of pollutants normally found in stormwater and can vary depending on land use, traffic volume and rainfall patterns.
  - Train operators in those factors that result in optimal pollutant removal. These factors include sweeper speed, brush adjustment and rotation rate, sweeping pattern, maneuvering around parked vehicles, and interim storage and disposal methods.
  - Consider the use of periodic parking restrictions in low to medium density single-family residential areas to ensure the sweeper's ability to sweep along the curb.
  - Establish programs for prompt sweeping, removal, and disposal of debris from special events that will generate higher than normal loadings.



- *Disposal of street sweeping solids must comply with Recommendations for Management of Street Wastes" described in Appendix IV-G of the SWMMWW.*
- *Inform citizens about eliminating yard debris, oil and other wastes in street gutters to reduce street pollutant sources.*

### 3.3 TREATMENT BMPS

This section describes treatment BMPs at the facility.

- ***Treatment BMPs:*** *Treatment BMPs (in addition to the potential treatment BMPs such as catch basin inserts described in Section 3.2 of this SWPPP) might not be required at the facility depending on stormwater quality analysis. Additional treatment BMPs will be implemented if needed, based on meeting benchmark and action levels discussed in Section 4 of this SWPPP.*

### 3.4 STORMWATER PEAK RUNOFF RATE AND VOLUME CONTROL BMPS

The Alaskan Copper Works facility is believed to have been constructed in accordance with stormwater peak runoff rate and volume control BMP regulations, or allowed variance regulations, in effect at the time of construction or facility expansion. Alaskan Copper Works does not maintain peak runoff and volume control BMPs beyond the existing catch basin storm drain network.

### 3.5 BMPS FOR SOIL EROSION AND SEDIMENT CONTROL AT INDUSTRIAL SITES

The following BMPs are applicable to the facility, as defined in Section S9 of the Permit, unless noted otherwise:

- *Cover and structural practice options to prevent erosion: vegetative cover such as grass, trees, shrubs, on erodible soil areas; or, covering with mats such as clear plastic, jute, synthetic fiber; or, preservation of natural vegetation including grass, trees, shrubs, vines, vegetated swale, dike, silt fence, check dam, gravel filter berm, sedimentation basin, and proper grading.*
- **Soil Erosion and Sediment Control:** Alaskan Copper Works does not perform industrial activities on unpaved areas.

## **4.0 STORMWATER MONITORING PLAN**

### **4.1 DEFINITION OF A STORMWATER MONITORING PLAN**

For purposes of this SWPPP, a stormwater monitoring plan is a document that describes steps to be taken for conducting stormwater monitoring at certain industrial facilities in the State of Washington. Stormwater monitoring consists of visual monitoring of stormwater discharges and stormwater sampling and testing.

### **4.2 STORMWATER MONITORING PLAN REQUIREMENT**

Alaskan Copper Works has obtained coverage under the Permit. The Permit is a statewide Permit for facilities conducting certain industrial activities and it is issued and administered by Ecology. The Permit allows Alaskan Copper Works to discharge stormwater to surface waters of the State. The Permit requires Alaskan Copper Works to prepare and implement a stormwater monitoring plan as part of a broader SWPPP. The purpose of the SWPPP is to reduce the discharge of pollutants from the facility to waters of the State via stormwater through implementation of BMPs. The purpose of the stormwater monitoring plan is to document procedures for conducting stormwater monitoring to assess the effectiveness of these BMPs.

### **4.3 PERMIT-REQUIRED STORMWATER MONITORING**

The Permit requires Alaskan Copper Works to monitor stormwater discharges once per quarter (or annually for discharge locations that are not sampled). Stormwater monitoring includes visual monitoring, sampling, and testing of stormwater discharges. The results of these observations and tests must be reported to Ecology. Stormwater sampling must be conducted at the proper location and “best efforts” should be made to conduct the sampling during a qualifying storm event, as explained below in Sections 4.4 and 4.5.

### **4.4 STORMWATER MONITORING LOCATION AT THE FACILITY**

Stormwater at Alaskan Copper Works is collected from catch basin “CB331707,” also known as “1707.” The location of sampling location 1707 is indicated on Attachment B as the “stormwater discharge point.”

## 4.5 STORMWATER MONITORING FREQUENCY

As previously discussed, monitoring must be conducted once per quarter and the permittees' "best efforts" should be made to conduct this sampling during a qualifying storm event. A qualifying storm event is one that meets the following criteria:

- The storm event produces at least 0.1 inches of rain in a 24-hour period or the storm event has an intensity equal to 0.1 inches or greater in a 24-hour period preceding sample collection.
- The storm event sampled is preceded by at least 24 hours of no greater than trace precipitation.

Efficiently complying with these criteria will require paying attention to weather forecasts in order to avoid monitoring a precipitation event that does not end up achieving the intensity criterion of 0.1 inches in 24 hours. Watch for forecasts that predict rain as compared to showers. In addition, use of a rain gauge is recommended to determine whether or not measurable precipitation has fallen within the previous 24 hours and to calculate the intensity of a storm. Hourly precipitation amounts for the most recent 48-hour period can be viewed on the internet at: <http://www.wrh.noaa.gov/sew/>.

The intensity criterion of 0.1 inches in 24 hours does not mean that the rainfall must last for a full 24 hours, only that from the time it begins raining to the time sampling is completed, the rainfall must be of the required intensity or greater. To determine this, observe and record the time it began raining, as well as the time sample collection ended. What the storm does after the sample is collected is not important. All that is needed to calculate the intensity of the storm are the times rainfall began and sampling ended and the measurement from the rain gauge. The following example on calculating rainfall intensity is from an Ecology publication:

*Rainfall begins at 9:35 A.M. (empty the rain gauge beforehand).*

*Stormwater discharge at your sampling site begins at 10:05 A.M.*

*Sampling is completed at 10:30 A.M.*

*The rain gauge shows 0.01 inches of rain when sampling is completed.*

*Rainfall intensity = 0.01 inches/55 minutes*

*= 0.00018 inches/minute*

*= 0.00018 inches/minute X 60 min/hr X 24 hrs/24 hrs*

*= 0.26 inches/24 hrs.*

*0.26 inches/24 hrs is greater than 0.1 inches/24 hrs, therefore the storm event meets the criterion.*

The attached field forms prompt the sampler to record the necessary data to make this calculation.

## **4.6 STORMWATER MONITORING DEVIATIONS**

A permittee is required to sample only once in a sample collection period and use their “best efforts” to achieve the storm event sample collection criteria listed in Section 4.5. If a sample is collected but one or more of these criteria are not met, the permittee must still submit the sample results and must include an explanation with the monitoring report identifying what criteria were not met and why. The permittee is not required to sample again that period.

No sampling is required if a storm event meeting the criteria discussed above under Section 4.5 does not occur. However, quarterly reporting is still required. If the permittee is not able to collect a sample for other reasons, the permittee must still submit a quarterly discharge monitoring report and must include an explanation of why a sample was not collected.

## **4.7 PERFORMING STORMWATER MONITORING**

Stormwater monitoring at the facility should be conducted within the first hour after *discharge* begins at the sampling point. (Note: this is not the same as sampling within the first hour after *precipitation* begins; the time in which discharge begins is considered the time when sufficient water is available at the sampling point to allow sample collection. A lag time of minutes or hours may pass between the start of precipitation and the start of discharge.) It is not required to sample stormwater outside of normal business hours or during unsafe conditions (e.g., during thunderstorms).

As previously discussed, stormwater monitoring consists of visual monitoring and stormwater sampling, each of which are described separately below.

### **4.7.1 VISUAL STORMWATER MONITORING**

Three types of visual monitoring are required under the Permit:

- Quarterly visual monitoring at discharge locations during stormwater sampling
- Annual wet season visual monitoring at discharge locations that are not sampled
- Annual dry season visual monitoring of the stormwater drainage system.

Quarterly visual monitoring includes observations for the presence of floating materials, visible sheen, discoloration, turbidity, or odor in the stormwater discharge at the sampling point, and shall also assess the SWPPPs BMPs required by the Permit. Annual wet season visual monitoring includes making similar observations at least once per year at discharge locations that are not sampled. Annual dry season visual monitoring includes inspecting the stormwater drainage system at least once per year during the dry months of July, August, and September after at least 7 consecutive days of no rain. The dry season

inspection shall determine the presence of non-stormwater discharges, such as domestic wastewater, non-contact cooling water, or process wastewater to the stormwater drainage system. It does not include inflow of groundwater. If a non-stormwater discharge is discovered, an Alaskan Copper Works representative is required to notify Ecology.

All visual monitoring results will be recorded on either the Quarterly and Annual Stormwater Monitoring field form or the Annual Dry Season Stormwater Monitoring field form. Blank forms are included at the end of this section. The quarterly visual monitoring during stormwater sampling also meets the requirements of the annual wet season inspection, so no separate annual wet season inspection form is necessary. These completed forms, referred to in the Permit as visual monitoring reports, must be signed by the person making the observations as well as by a duly authorized representative of the facility (as described in condition G.17 of the Permit). The form includes a certification that the facility is in compliance or non-compliance with the SWPPP and the Permit. If the site inspection indicates that the requirements of the SWPPP or the Permit are not being met, the visual monitoring report must include a summary of the actions that will be taken to meet these requirements. See Section S4.D.1 of the Permit for instructions on reporting incidents of non-compliance.

#### **4.7.2 STORMWATER SAMPLING**

Stormwater samples will be collected from the sampling location (identified in the site map in Attachment B) at the end of the drainage pipe opening as it enters or leaves the drainage pipe. Stormwater samples will be obtained by submerging the sampling bottles in the flow at the drainage pipe opening without overfilling the bottles. Additional sampling protocols are listed on pages 9 and 10 of the Ecology guidance on sampling, accessible through the link below:

<http://www.ecy.wa.gov/programs/wq/stormwater/industrial/stormsamp.pdf>.

According to the Permit, the required stormwater sampling parameters for this facility are listed in the table below.

Parameter	Units	Container	Preservative	Analytical Method	Benchmark Value
Turbidity	NTU	500 mL polyethylene bottle	None if field meter, or Cool to 4°C	Field meter or meter in lab	25 NTU
pH	Standard Units	Disposable cup	None, measure immediately	Meter or pH paper in field	6-9 SU
Petroleum – Oil and Grease (non- polar)	mg/L	1 liter amber glass bottle	Acid, Cool to 4°C	EPA 1664 in lab	15 mg/L
Total Zinc	µg/L	500 mL polyethylene bottle	Acid, Cool to 4°C	EPA 200.7 in lab	117 µg/L
Total Copper	µg/L	500 mL polyethylene bottle	Acid, Cool to 4°C	EPA 200.7	63.6 µg/L
Total Lead	µg/L	500 mL polyethylene bottle	Acid, Cool to 4°C	EPA 200.7	81.6 µg/L
Hardness	mg/L	500 mL polyethylene bottle	Acid, Cool to 4°C	EPA 130.1 or 130.2	N/A

Testing for these parameters has been conducted by Freidman & Bruya, Inc., in Seattle, Washington (206-285-8282) and other laboratories subcontracted by Freidman & Bruya, Inc., from 2003 through the present. The laboratory provides a cooler with all the necessary sample collection jars. Turbidity and pH can be measured in the field with appropriate meters, if available. If not measured with an appropriate field meter, pH can be measured by inserting a strip of pH paper (provided by the lab) into a disposable cup for 2 to 10 minutes and comparing the strip to the color chart; record the pH on the field sampling form.

As of the third quarter of 2009, none of the parameters listed above have reached consistent attainment (See Table 2); therefore, sampling is still required for all parameters. Samples are currently labeled by location only. Samples from catch basin 331707 are labeled “1707” for short. Another sample labeling option is to use the following convention:

“Sampling location name-sampling date”

For example, a sample collected from catch basin 1707 on August 3, 2009 would be labeled “1707-08/03/09.”

After filling the sample bottles with stormwater, they are brought to the laboratory according to the procedures listed in Section 4.9.

## 4.8 RECORD KEEPING

Records required to be retained include the information recorded in the field during monitoring and the laboratory reports provided by the laboratory. All of the information to be recorded in the field is summarized on two separate forms, the Quarterly (and Annual) Stormwater Monitoring form and the Annual Dry Season Visual Monitoring form. These completed forms, along with the laboratory data, copies of Discharge Monitoring Reports (DMRs; explained in Section 4.11), and other applicable

monitoring records collected under the SWPPP, should be stored at the facility office along with the SWPPP. Blank forms, including a certification form, a stormwater monitoring form, and a dry season monitoring form, are provided at the end of this section. Field forms and laboratory reports must be retained for 5 years according to the Permit.

#### **4.9 SUBMITTING SAMPLES TO THE LABORATORY**

Stormwater samples are submitted to an accredited laboratory, such as Freidman & Bruya, Inc., which is located at:

Freidman & Bruya, Inc.  
3012 16<sup>th</sup> Avenue West  
Seattle, Washington 98119-2029  
(206-285-8282)

The sample bottles should be labeled and the chain of custody (COC) form should be filled out. The stormwater sample bottles should be packed in the cooler on ice and brought to the lab along with a completed COC form. If mailing the cooler, or sending via courier, place the completed COC form inside a Ziploc bag and place the Ziploc bag inside the cooler prior to sealing the cooler. Note that whenever turbidity samples are required but are not measured with a field meter, the sample must be brought to the laboratory as soon as possible because the turbidity sample needs to be analyzed by the laboratory within 48 hours.

#### **4.10 SUBMISSION AND REVIEW OF LABORATORY DATA**

Three main things need to happen with the stormwater monitoring data. First, the monitoring results obtained as part of stormwater sampling must be submitted to Ecology on a quarterly basis (see Section 4.11).

Second, the monitoring results from stormwater sampling should be compared to the benchmark values shown in the table presented in Section 4.7.2 to assess the effectiveness of Alaskan Copper Works's current BMPs in preventing pollutants from entering stormwater. Values at or below benchmark values are considered unlikely to cause a water quality violation and consistent attainment of benchmark values over eight consecutive quarters results in the suspension of the need to conduct further stormwater sampling (unless significant process changes take place at the facility). Therefore, no additional action is needed if monitoring results are below benchmark values, with the exception that the results should be monitored to assess whether the eight consecutive quarters criterion has been achieved. Exceedance of these benchmark values does not constitute a violation of your Permit because benchmark values are not

water quality standards and are not Permit limits. However, it is an indicator that additional measures should be taken to reduce the entry of pollutants into stormwater at the facility. These response measures range from conducting an inspection of existing BMPs (Level One Response), to implementing additional stormwater BMPs (Level Two Response), to implementing stormwater treatment BMPs (Level Three Response). These responses and the action levels that trigger them are presented below. Note that a Level One Response requires documenting the response action in the SWPPP and in the Discharge Monitoring Report (see Section 4.11).

#### **Level One Response**

**Each** time after December 31, 2004 quarterly sampling results are above a benchmark value or outside the benchmark range for pH, the permittee shall take the following actions:

##### **Actions:**

The permittee shall:

- 1) Conduct an inspection of their facility as promptly as possible, but no later than 2 weeks after receipt of sampling results.
- 2) The inspection shall:
  - Evaluate possible sources of the benchmark parameter in the stormwater discharge,
  - Identify source/operational control methods by which the permittee can further reduce stormwater contamination,
  - Evaluate whether any improvements or changes to the SWPPP are warranted to control the benchmark parameter.
- 3) Summarize the results, including remedial actions taken, if any, and place them in the SWPPP.
- 4) Evaluate the need for a level two or three response, as outlined below.
- 5) Include a brief summary of inspection results and remedial actions with the quarterly discharge monitoring report for the quarter for which sample results were above benchmark values.

#### **Action Levels**

– for samples collected after December 31, 2004 –

If any two out of the four previous quarterly sampling results for a parameter are above the action levels identified below, the permittee shall proceed with a level two response. If any four quarterly samples for a particular parameter are above the action levels identified below, the permittee shall proceed with a level three response.

<b>Parameter</b>	<b>Action Level</b>
Total Copper	149 µg/L
Total Lead	159 µg/L
Total Zinc	372 µg/L
Petroleum Oil and Grease	30 mg/L
Turbidity	50 NTU



BOD5	60 mg/L
Ammonia	38 mg/L
Nitrate/Nitrite Nitrogen	1.36 mg/L
Total Phosphorus	4.0 mg/L
pH	Outside the range of 5-10
Cover sheet parameters for 303(d) listed waterbody segments not listed above	Twice the benchmark level

### Level Two Response

A level two response shall be immediately initiated whenever two out of the previous four quarterly sampling results collected after December 31, 2004 are above the action levels identified above.

#### Actions:

The permittee shall:

- 1) Promptly identify the potential sources of stormwater contamination that are causing or contributing to the presence of the benchmark parameter.
- 2) Investigate all available options of source control, operational control, and stormwater treatment BMPs to reduce stormwater contaminant levels below Permit benchmark values.
- 3) Implement additional source and operational BMPs identified as part of this investigation.
- 4) Prepare a level two source control report outlining actions taken, planned, and any scheduled for implementing source and operational BMPs to reduce stormwater contaminant levels.
- 5) Submit the level two source control report to Ecology within 6 months of initiating a level two response.

### Level Three Response

If any four quarterly samples for any parameter collected after December 31, 2004 (consecutive or non-consecutive) are above the action levels identified above, the permittee shall immediately initiate a level three response.

#### Actions:

The Permittee shall:

- 1) Promptly identify the potential sources of stormwater contamination that are causing or contributing to the presence of the benchmark parameter.
- 2) Investigate all available options of source control, operational control, and stormwater treatment BMPs to reduce stormwater contaminant levels to or below Permit benchmark values.
- 3) Implement additional source control, operational control, and stormwater treatment BMPs identified as part of this investigation within 12 months of initiating the level three response.
- 4) Prepare a level three source control report outlining actions taken, planned, and scheduled to reduce stormwater contaminant levels including stormwater treatment BMPs.
- 5) Submit the level three source control report to Ecology within 12 months of initiating

a level three response.

- 6) The permittee may request a waiver from employing stormwater treatment BMPs. The waiver request must be submitted to Ecology within 3 months of initiating the level three response and must include an explanation of why the implementation of stormwater treatment BMPs are infeasible, and are not necessary for compliance with water quality standards due to unique site conditions. The stormwater treatment waiver request must be reviewed and approved by Ecology as a modification of Permit coverage in accordance with Condition S1.D before the stormwater treatment waiver becomes effective.

And finally, the results of all visual monitoring data should be used to determine if action is needed to respond to the observation of visible pollutants. Response actions may include cleanup of the observed condition and/or investigation of the source of the condition. These response actions must be documented in the visual monitoring report (Quarterly and Annual Stormwater Monitoring form) described in Section 4.7.1.

#### **4.11 SUBMITTING STORMWATER MONITORING RESULTS TO THE DEPARTMENT OF ECOLOGY**

The Permit requires that the monitoring results obtained as part of stormwater sampling be submitted to Ecology on a quarterly basis within 45 days following the end of the reporting period. For example, third quarter 2009 monitoring results must be submitted no later than November 14, 2009. Submittal of visual monitoring results is not required. Monitoring data obtained during each monitoring period must be summarized and submitted on a DMR form provided by Ecology. The DMR must be signed by a duly authorized company official in accordance with General Condition G17 of the Permit (the Alaskan Copper Works facility manager has been duly authorized and will sign the DMR forms). Monitoring data may also be submitted electronically via e-mail when Ecology completes work on an electronic DMR form. Until that time, hard copy DMR forms should be submitted to:

Industrial Stormwater Permit Manager  
Department of Ecology  
Water Quality Program  
P.O. Box 47696  
Olympia, Washington 98504-7696

DMR forms must be submitted quarterly whether or not a sample was collected. If there was no sample collected due to insufficient storm events, submit the form marking the "no discharge" check box. DMR forms must also be submitted quarterly if monitoring has been suspended as a result of consistent attainment of benchmark values. If monitoring has been suspended based on consistent attainment, submit the form marking the "consistent attainment" check box.

Instructions: Complete form and attach to visual monitoring reports for specified event.

**QUARTERLY AND ANNUAL  
STORMWATER VISUAL MONITORING CERTIFICATION\*  
ALASKAN COPPER WORKS, SEATTLE, WASHINGTON**

Event (circle one):          Quarterly          or          Annual

For quarterly monitoring, specify quarter and year: \_\_\_\_\_

For annual monitoring, specify month and year: \_\_\_\_\_

I certify, under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name of Facility Representative: \_\_\_\_\_

Signature of Facility Representative: \_\_\_\_\_ Date: \_\_\_\_\_

**COMPLIANCE**

I certify, based on the attached visual monitoring reports for the monitoring quarter specified above, that Alaskan Copper Works, is in compliance with this Stormwater Pollution Prevention Plan and conditions of the Washington Industrial Stormwater General Permit.

Name of Facility Representative: \_\_\_\_\_

Signature of Facility Representative: \_\_\_\_\_ Date: \_\_\_\_\_

**NON-COMPLIANCE**

I certify, based on the attached visual monitoring reports for the monitoring quarter specified above, that the Alaskan Copper Works, is **not** in compliance with this Stormwater Pollution Prevention Plan and/or conditions of the Washington Industrial Stormwater General Permit. The following conditions of non-compliance are noted: \_\_\_\_\_

\_\_\_\_\_

The following action will be taken to correct these conditions and meet the requirements of the Stormwater Pollution Prevention Plan and the Permit: \_\_\_\_\_

\_\_\_\_\_

Name of Facility Representative: \_\_\_\_\_

Signature of Facility Representative: \_\_\_\_\_ Date: \_\_\_\_\_

**QUARTERLY (AND ANNUAL) STORMWATER MONITORING  
ALASKAN COPPER WORKS, SEATTLE, WASHINGTON**

<b>Quarter:</b> _____ <b>Date:</b> _____ <b>Sampling Location:</b> _____	
<b>STORMWATER SAMPLING</b> (According to the Industrial Stormwater General Permit condition S4.A, a permittee is required to use its best efforts to meet the sampling criteria in S4.A 1-5, such as sampling only after at least one day of no greater than trace precipitation. However, if the criteria cannot be met, a permittee must still collect and submit a stormwater sample result).	
1. Approximate time rainfall began:	
2. Time of sampling (should be within 1 hour after discharge begins):	
3. No. of minutes passed between start of rainfall and time of sampling:	
4. Did sampling occur within the first hour of discharge (Y/N)?	
5. Inches of rain in gauge at time of sampling:	
6. Did the sampled storm event meet the minimum required rainfall intensity of 0.1 inches in 24 hours (Y/N)? (i.e., Is [(Row 5/Row 3) X (1,440)] ≥ 0.1?	
7. Sampling method (e.g., "from catch basin by hand"):	
8. Sampling parameters:	
9. Result of field measurements (pH/Turbidity):	
10. Comments (i.e., unusual circumstances):	
<b>VISUAL MONITORING</b> [Visual Monitoring shall assess the SWPPPs BMPs required by the Permit and shall be completed at least once per quarter at time of sampling. Discharge locations that are not sampled shall receive visual inspection at least annually using the visual monitoring portion of this form for each discharge location (Write NA for the sampling section of this form when conducting annual visual monitoring for discharge locations that are not sampled)]	
Inspect stormwater discharge for evidence of pollutants entering the drainage system. Check for oil sheen, floating debris, discoloration, turbidity, and odor. Record observations here:	
Indicate which of the following BMPs, as described in the SWPPP, were observed during this inspection:	
<input type="checkbox"/> Liquids stored outdoors are covered or have secondary containment	
<input type="checkbox"/> Covers placed over waste dumpsters and storage containers.	
<input type="checkbox"/> Paved areas swept clean	
<input type="checkbox"/> Other BMPs observed. List here:	
1. Do the BMPs listed above appear to be functioning adequately and with no observable deviations from the BMP descriptions as described in the SWPPP (Yes/No)?	
2. Do the site conditions appear to be consistent with the facility assessment and site map contained in the SWPPP (Yes/No)?	
If the answer to questions 1 or 2 were no, explain here:	
Name of sampler: _____	
Signature of sampler: _____ Date: _____	

**ANNUAL DRY SEASON STORMWATER MONITORING**  
**ALASKAN COPPER WORKS, SEATTLE, WASHINGTON**

Date: \_\_\_\_\_

Outfall Location: \_\_\_\_\_

Completed by: \_\_\_\_\_

Action	Findings
Inspect stormwater drainage outfalls for evidence of non-stormwater discharges.  Check the listed stormwater discharge locations.	
Identify any remaining or new problem areas and determine whether additional control measures are needed.	
If a non-permitted non-stormwater discharge has been identified, notify the Northwest Regional Office of Ecology at 425-649-7000.  Attempt to determine the source of the discharge and eliminate it if possible.	

Other Comments: \_\_\_\_\_  
\_\_\_\_\_

I certify, based on this annual dry-season visual monitoring report that this facility is in compliance with its Stormwater Pollution Prevention Plan and conditions of the Washington Industrial Stormwater General Permit.

Name of Facility Representative: \_\_\_\_\_

Signature of Facility Representative: \_\_\_\_\_ Date: \_\_\_\_\_

**ATTACHMENT A**  
**Worksheets 1 through 4**

Identify Areas Associated with Industrial Activity		Worksheet #1
Edit these areas to only include those occurring at the facility or add additional areas which may be sources of pollution. Discuss the potential of these areas and activities as potential pollutant sources and identify any pollutant that may be generated by that activity.		
Industrial Area or Activity	Potential Stormwater Pollutant from Area or Activity	Likelihood of Being Present in Stormwater Discharge and Source of Potential Contamination
Plasma Table Operations	Copper, Oil and Grease, Turbidity	Leakage of process water or fluids and setting stock or unfinished product on non-contained surfaces may likely result in runoff/seepage into stormwater system
Raw product and materials in process storage areas	Copper, Oil and Grease, Turbidity	Proximity of raw material stock exhibiting exposed copper and cooling fluids is likely to result in runoff/seepage into stormwater system
Outdoor stock and material movement	Copper, Oil and Grease, Turbidity	Proximity of material and stock loading, unloading, storage, and transfer between manufacturing locations may insignificantly result in runoff/seepage into stormwater system
Generated dust or particulates	Copper, Turbidity	Accumulation of cutting materials and uncontrolled debris migration from plasma table and cutting operations insignificantly result in runoff/seepage into stormwater system
Roofs or other surfaces exposed to air emissions from processing	Copper	Uncontrolled accumulation of air emission contaminants may likely result in runoff/seepage into stormwater system
Vehicle fueling, maintenance and/or cleaning	Oil and Grease	Forklift and loading/unloading operations would rarely result in spillage of oil or grease and can result in runoff/seepage into stormwater system
Roofs or other surfaces	Zinc, Copper, Turbidity	Roofing and building construction materials having corrosion protective coatings, including galvanized materials, may likely result in runoff/seepage into stormwater system

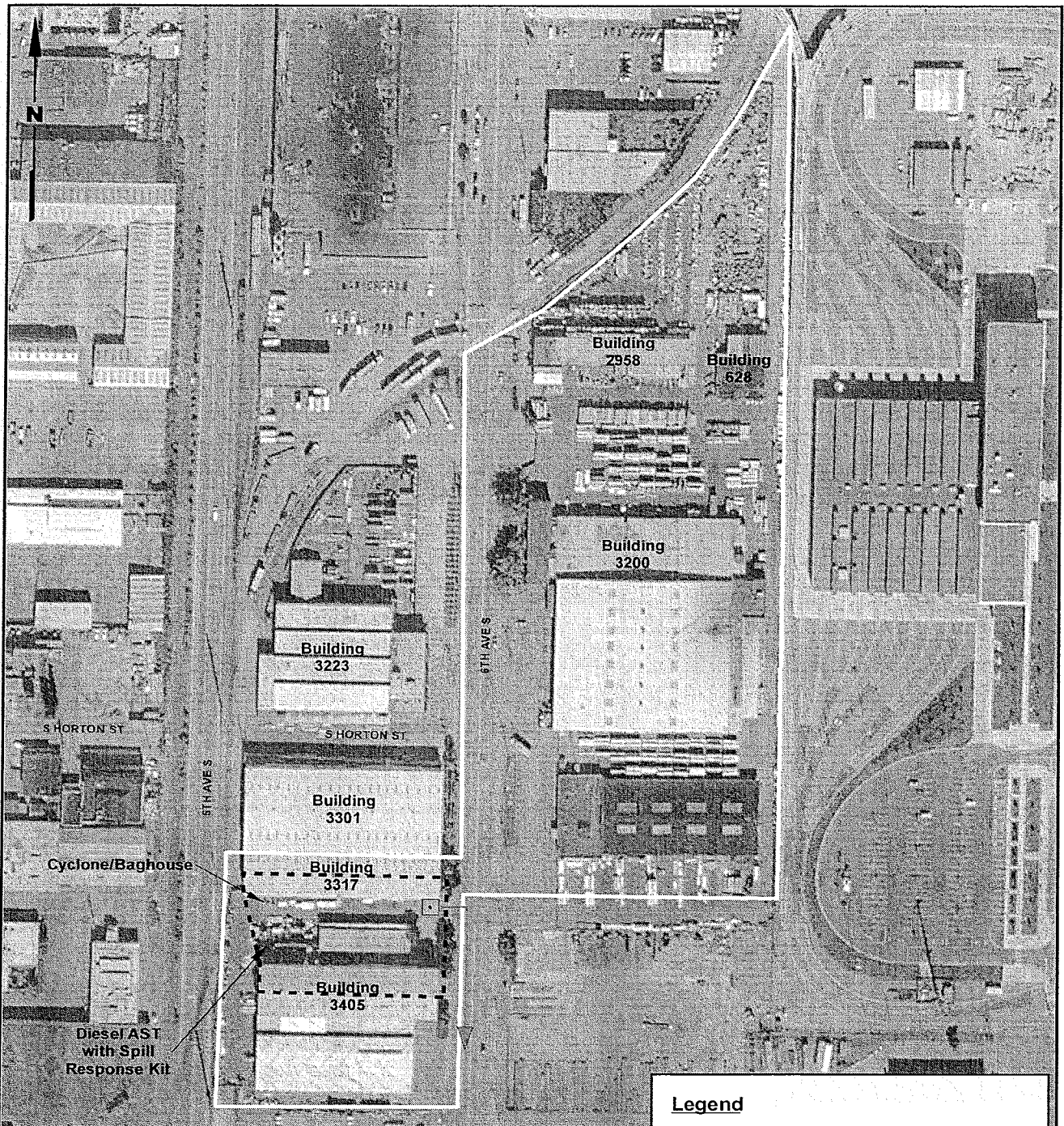
Potential Pollutant Source Identification		Worksheet #2
List all potential stormwater pollutants from onsite activities, including stored materials.		
Stormwater Pollutant Source	Potential Stormwater Pollutant	Likelihood of Pollutant Being Present in Stormwater Discharge
Plasma Table and Cutting Operations	Copper	Likely due to vaporization of metals during high temperature cutting
Stored Raw and (In Process) Product Stock	Copper, Cutting Fluids, and Oils	Likely due to exposure to rain or moisture
General Forklift Operations	Oils and Grease	Likely due to release of lubrication grease from forklifts or material supplier trucks and vehicles
Metal Cutting Work Stations	Cooling Fluids	Unlikely due to process containment but potential for coolant line rupture or failure
Building and Structures	Zinc, Turbidity	Likely due to construction material
Dust and Particle Emissions	Copper, Turbidity	Likely due to vaporization and subsequent accumulation of reconstituted vaporized contamination from processes



List of Significant Spills and Leaks						Worksheet #3		
List all spills and leaks of toxic or hazardous pollutants that were significant. Significant spills and leaks include but are <u>not</u> limited to, release of <u>oil</u> or <u>hazardous substances in excess of reportable quantities</u> . Although not required, it is recommended to list spills and leaks of non-hazardous materials.								
Date (month/day/year)	Location (refer to site map)	Description				Response Procedure		Preventive Measure Taken
		Type of Material	Quantity	Source (if known)	Reason for Spill/Leak	Amount of Material Recovered	Material No Longer Exposed to Stormwater (Yes/No)	

Employee Training		Worksheet #4	
Describe the annual training of employees on the SWPPP, addressing spill response, good housekeeping, and material management practices.			
Training Topics	Brief Description of Training Program/Materials (for example: film, newsletter, class)	Schedule for Training	Attendees (sign and date on reverse side)
1) Line Workers			
Spill Prevention and Response	Written training program based on Ecology Stormwater Program Guidelines Standard ER Response Procedures (1910.120)	July 31	Spill Prevention Team Members and Department Managers
Good Housekeeping	Internal policy and BMP review indicated in the SWPPP	July 31	Department Managers and Employees
Material Management Practices	Internal policy and BMP review indicated in the SWPPP	July 31	Department Managers
2) Pollution Prevention Team			
SWPPP Implementation	Internal policy and BMP review indicated in the SWPPP	July 31	Spill Prevention Team Members and Department Managers
Monitoring Procedures	Internal policy and BMP review indicated in the SWPPP	July, 31	Spill Prevention Team Members

Y:\Projects\27301-5\Mapdocs\AttachmentB.mxd 7/24/2009 NAD 1983 StatePlane Washington North FIPS 4601 Feet



0 200 400  
Scale in Feet

**Note**  
1. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

Data Source: King County GIS; ESRI Image Server

**Legend**

- Stormwater Discharge Point CB371707
- Stormwater System Flow
- Stormwater Drainage Area
- Alaskan Copper Works Property Boundary



Alaskan Copper Works  
3200 6th Avenue South  
Seattle, Washington

Property Site Map

Attachment  
**B**

**TABLE 1**  
**POTENTIALLY APPLICABLE BEST MANAGEMENT PRACTICES FOR INDUSTRIAL ACTIVITIES**  
**ALASKAN COPPER**  
**SEATTLE, WASHINGTON**

Best Management Practices (BMPs)	Applicability of BMP to this Facility	Comments
<b>Operational Source Control BMPs</b>		
Applicable Operational Source Control BMPs	Applies to this facility	See Stormwater Pollution Prevention Plan (SWPPP) Section 3.1.
<b>Structural Source Control BMPs</b>		
BMPs for the Building, Repair, and Maintenance of Boats and Ships	Does not apply	Alaskan Copper does not have a boatyard or shipyard.
BMPs for Commercial Animal Handling Areas	Does not apply	Alaskan Copper does not handle animals.
BMPs for Commercial Composting	Does not apply	Alaskan Copper is not a composting facility.
BMPs for Commercial Printing Operations	Does not apply	Alaskan Copper is not a commercial printing facility.
BMPs for De-icing and Anti-Icing Operations – Airports and Streets	Does not apply	Alaskan Copper does not perform de-icing activities.
BMPs for Dust Control at Disturbed Land Areas and Unpaved Roadways and Parking Lots	Does not apply	No unpaved ground within the stormwater drainage area.
BMPs for Dust Control at Manufacturing Areas	Does not apply	Alaskan Copper does not have outdoor manufacturing areas which require dust control. See Section 3.2.4 for BMPs addressing air emissions from roofs.
BMPs for Fueling at Dedicated Stations	Applies to this facility	See SWPPP Section 3.2.1.
BMPs for Illicit Connections to Storm Drains	Does not apply	Alaskan Copper has no known illicit connections to storm drains.
BMPs for Landscaping and Lawn/Vegetation Management	Does not apply	Alaskan Copper does not have grassy areas or lawns.
BMPs for Loading and Unloading Areas for Liquid or Solid Material	Applies to this facility	See SWPPP Section 3.2.2.
BMPs for Log Sorting and Handling	Does not apply	Alaskan Copper does not maintain a log yard.
BMPs for Maintenance and Repair of Vehicles and Equipment	Applies to this facility	Alaskan Copper conducts maintenance of vehicles off site. Minor maintenance, if needed, is performed indoors.
BMPs for Maintenance of Public and Private Utility Corridors and Facilities	Does not apply	No large utility corridors are present on site.
BMPs for Maintenance of Roadside Ditches	Does not apply	Alaskan Copper does not have roadside ditches.
BMPs for Maintenance of Stormwater Drainage and Treatment Systems	Applies to this facility	See SWPPP Section 3.2.3.
BMPs for Manufacturing Activities – Outside	Does not apply	Alaskan Copper does not conduct manufacturing activities outdoors.
BMPs for Mobile Fueling of Vehicles and Heavy Equipment	Does not apply	Alaskan Copper does not conduct mobile fueling outdoors.
BMPs for Painting/Finishing/Coating of Vehicles/Boats/ Buildings/Equipment	Does not apply	Alaskan Copper does not paint or coat materials.
BMPs for Parking and Storage of Vehicles and Equipment	Applies to this facility	See SWPPP Section 3.2.7, which includes parking-related BMPs.
BMPs for Railroad Yards	Does not apply	Alaskan Copper does not perform maintenance of railcars.

**TABLE 1**  
**POTENTIALLY APPLICABLE BEST MANAGEMENT PRACTICES FOR INDUSTRIAL ACTIVITIES**  
**ALASKAN COPPER**  
**SEATTLE, WASHINGTON**

<b>Best Management Practices (BMPs)</b>	<b>Applicability of BMP to this Facility</b>	<b>Comments</b>
BMPs for Recyclers and Scrap Yards	Does not apply	Alaskan Copper does recycle and maintain scraps of various materials; however, it is not a recycling or scrap yard facility.
BMPs for Roof/Building Drains at Manufacturing and Commercial Buildings	Applies to this facility	See SWPPP Section 3.2.4.
BMPs for Spills of Oil and Hazardous Substances	Applies to this facility	See Good Housekeeping Spill BMPs in SWPPP Section 3.1.4 and BMPs for ASTs in SWPPP Section 3.2.6.
BMPs for Storage of Liquid, Food Waste, or Dangerous Waste Containers (Outside).	No storage of this type within the stormwater drainage area.	These BMPs were included only for potential future reference. See SWPPP Section 3.2.5.
BMPs for Storage of Liquids in Permanent Aboveground Tanks (ASTs)	Applies to this facility	See SWPPP Section 3.2.6.
BMPs for Storage or Transfer (Outside) of Solid Raw Materials, By-products, or Finished Products	Applies to this facility	See SWPPP Section 3.2.2 for BMPs for Loading and Unloading Areas for Liquid or Solid Material.
BMPs for Urban Streets	Applies to this facility	See SWPPP Section 3.2.7.
BMPs for Washing and Steam Cleaning Vehicles/Equipment/Building Structures	Does not apply	Alaskan Copper does not perform washing or steam cleaning.
BMPs for Wood Treatment Areas	Does not apply	Alaskan Copper does not perform wood treatment outdoors.
<b>Treatment BMPs</b> Various	May apply to this facility	Additional treatment BMPs beyond those described in this SWPPP (such as recommended catch basin inserts) will be implemented, if needed, based on meeting benchmark and action levels (See SWPPP Section 3.3).
<b>Stormwater Peak Runoff Rate and Volume Control BMPs</b> Various BMPs	Does not apply	Alaskan Copper is not required to have peak runoff rate or volume control BMPs.
<b>Erosion and Sediment Control BMPs</b> BMPs for Soil Erosion and Sediment Control at Industrial Sites	Does not apply	Alaskan Copper does not have industrial activities on soil areas.